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PTO/SB/05 (4/98)  
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# UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 C.F.R. § 1.53(b))

Attorney Docket No.

First Inventor or Application Identifier

Title Dumbwaiter elevating and lowering platform

Express Mail Label No.

## APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

1. ☒ \* Fee Transmittal Form (e.g., PTO/SB/17)  
(Submit an original and a duplicate for fee processing)
2. ☒ Specification [Total Pages 4]  
(preferred arrangement set forth below)
  - Descriptive title of the invention
  - Cross References to Related Applications
  - Statement Regarding Fed sponsored R & D
  - Reference to Microfiche Appendix
  - Background of the invention
  - Brief Summary of the invention
  - Brief Description of the Drawings (if filed)
  - Detailed Description
  - Claim(s)
  - Abstract of the Disclosure
3. 1 Drawing(s) (35 U.S.C. 113) [Total Sheets 1]
4. Oath or Declaration [Total Pages 2]
  - a. 2 Newly executed (original or copy)
  - b. ☐ Copy from a prior application (37 C.F.R. § 1.63(d))  
(for continuation/divisional with Box 16 completed)
  - i. ☐ DELETION OF INVENTOR(S)  
Signed statement attached deleting inventor(s) named in the prior application, see 37 C.F.R. §§ 1.63(d)(2) and 1.33(b).

\* NOTE FOR ITEMS 1 & 13: IN ORDER TO BE ENTITLED TO PAY SMALL ENTITY FEES, A SMALL ENTITY STATEMENT IS REQUIRED (37 C.F.R. § 1.27), EXCEPT IF ONE FILED IN A PRIOR APPLICATION IS RELIED UPON (37 C.F.R. § 1.28).

ADDRESS TO: Assistant Commissioner for Patents  
Box Patent Application  
Washington, DC 20231

5. ☐ Microfiche Computer Program (Appendix)
6. Nucleotide and/or Amino Acid Sequence Submission (if applicable, all necessary)
  - a. ☐ Computer Readable Copy
  - b. ☐ Paper Copy (identical to computer copy)
  - c. ☐ Statement verifying identity of above copies

## ACCOMPANYING APPLICATION PARTS

7. ☐ Assignment Papers (cover sheet & document(s))
8. ☐ 37 C.F.R. § 3.73(b) Statement of Power of Attorney (when there is an assignee)
9. ☐ English Translation Document (if applicable)
10. ☐ Information Disclosure Statement (IDS)/PTO-1449 [Copies of IDS Citations]
11. ☐ Preliminary Amendment
12. ☐ Return Receipt Postcard (MPEP 503)  
(Should be specifically itemized)
13. ☒ \* Small Entity Statement filed in prior application, Status still proper and desired (PTO/SB/09-12)
14. ☐ Certified Copy of Priority Document(s) (if foreign priority is claimed)
15. ☐ Other: .....

16. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in a preliminary amendment:

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No: \_\_\_\_\_

Prior application information: Examiner \_\_\_\_\_ Group / Art Unit: \_\_\_\_\_

For CONTINUATION or DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 4b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

## 17. CORRESPONDENCE ADDRESS

☐ Customer Number or Bar Code Label or ☒ Correspondence address below

(Insert Customer No. or Attach bar code label here)

Name	Wayne M. Slagle				
Address	1228 NE 193 <sup>rd</sup> Ave				
City	Portland	State	OR	Zip Code	97230
Country	USA	Telephone	503 256 3852	Fax	503 669 8973

Name (Print/Type)	Wayne M. Slagle	Registration No. (Attorney/Agent)	
Signature	Wayne M. Slagle	Date	11-26-99

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**STATEMENT CLAIMING SMALL ENTITY STATUS  
(37 CFR 1.9(f) & 1.27(b))--INDEPENDENT INVENTOR**

Docket Number (Optional)

Applicant, Patentee, or Identifier: Wayne M. Slagle

Application or Patent No.: \_\_\_\_\_

Filed or Issued: \_\_\_\_\_

Title: Dumbwaiter elevating and lowering platform device

As a below named inventor, I hereby state that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees to the Patent and Trademark Office described in:

- ☒ the specification filed herewith with title as listed above.  
☐ the application identified above.  
☐ the patent identified above.

I have not assigned, granted, conveyed, or licensed, and am under no obligation under contract or law to assign, grant, convey, or license, any rights in the invention to any person who would not qualify as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern, or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

- ☒ No such person, concern, or organization exists.  
☐ Each such person, concern, or organization is listed below.

Separate statements are required from each named person, concern, or organization having rights to the invention stating their status as small entities. (37 CFR 1.27)

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

Wayne M. Slagle  
NAME OF INVENTOR

NAME OF INVENTOR

NAME OF INVENTOR

Wayne M. Slagle  
Signature of inventor

Signature of inventor

Signature of inventor

11-26-99  
Date

Date

Date

## TITLE OF INVENTION

The title of the invention is a dumb waiter elevating and lowering platform device. The inventor is Wayne M. Slagle, 1228 N.E. 193<sup>rd</sup> Ave, Portland, Oregon, 97230 and a citizen of the United States of America.

## CROSS-REFERENCE TO RELATED APPLICATIONS

5,465,808            Nov.,1995            Musgrove            182/2

An elevating system elevates a payload platform between a first position and a second position, such elevating system having a stowed position, an operational position, and a fully deployed position.

5,667,035            Sept.,1997            Huges            182/142

An overhead platform elevating device for moving objects between a lower level of a building and an overhead storage space is provided including a rectangular platform having a base plate and a centrally disposed supporting surface, a motor assembly, opposed pully assemblies, a plurality of platform adjustment cables, drive cables and telescoping stabilization members.

2,996,151                                    Olson

Dumb Waiter lifting platform

## STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

Not applicable

## REFERENCE TO A MICROFICHE APPENDIX

Not applicable

## BACKGROUND OF THE INVENTION

The first dumbwaiters were screw drive. The current winding drum is the most popular type of drive, consisting of a drive motor connected to a gear reducer by either direct drive or V- belts. The drum winds a cable to raise the load and several limit switches are used to set the travel limits. A disc brake is used to lock and hold the input or output shafts. The drive mechanism normally mounts below the platform, limiting the lower travel unless the drive is located below ground. Also, the platform car is usually

made of sheet metal which allows any spilled materials to leak down the wall, inside the hoistway. Some systems allow for mechanical operation y pulling on a rope that , through a set of pulleys on a common shaft, raises or lowers the platform car connected to a rope.

## BRIEF SUMMARY OF INVENTION

An elevating system that moves a payload container or platform from one elevation to another. Such an elevating system allows the platform to stop at pre-determined positions as needed between floors of a building or residences by depressing a "raise", "lower" or "stop" switch. A remote control module permits operation from a location within visual sight of the switch. The lift mechanism is comprised of a low profile torque motor integral to the rotating cylinder that wraps a cable, which through a system of pulleys, raises the payload. The low profile motor allows the payload to lower to a ground position without a hole below ground for the motor and is mounted to the bottom of the tower. The payload is lowered by reversing the rotation of the motor with gravity acting on the payload. The motor incorporates an integral electromagnetic brake. Also incorporated into the low profile motor is a rotary counter that sets the stop locations of the platform without the use of limit switches in the hoist way. The container is a single piece, made of roll molded plastic. A lip surrounds the front opening and prevents spills from exiting the container and dripping down the inside walls of the hoist way.

**BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING**  
None enclosed

## DETAILED DESCRIPTION OF THE INVENTION

The high torque, low profile motor assembly, item 1, mounts to the base of the tower, item 4 , The motor drive contains two 2" radius sheaves , items 11, that wrap the cable, items 3, that is connected through a pulley system, item 2, that is mounted to the uppermost portion of the tower. The pulley assembly is mounted in such a way as to allow for slight changes in cable length due to cable extension or winding problems from side to side. Coarse adjustment is provided by turnbuckles, items 12, at the platform connection, item 5

. The tower, item 4, is provided in sections to allow it to be fed though the access door of the hoist way rather than having to build the hoist way around a single piece . The tower assembly mounts to the rear wall of the hoist way with the use of lag bolts to be a fully self contained drive unit when assembled.

The container, item 7, is a one piece item, custom made from a roll mold process, that mounts onto the platform, item 5, that is attached to the tower and raised by the cable. Bushing material provides the low friction between the platform and the tower.

The controls for raising, lowering, and stopping, items 6, are mounted to walls near the access doors. The controls are connected to the controller that provides motor control, item 9, through wiring harnesses, items 10.

## CLAIMS

What I claim as my invention is a space saving, low profile, high torque rotary drive system that integrates the brake and limit switches.

What I claim as my invention is a single piece container that is waterproof and has a lip to contain any spills for the use in a dumb waiter.

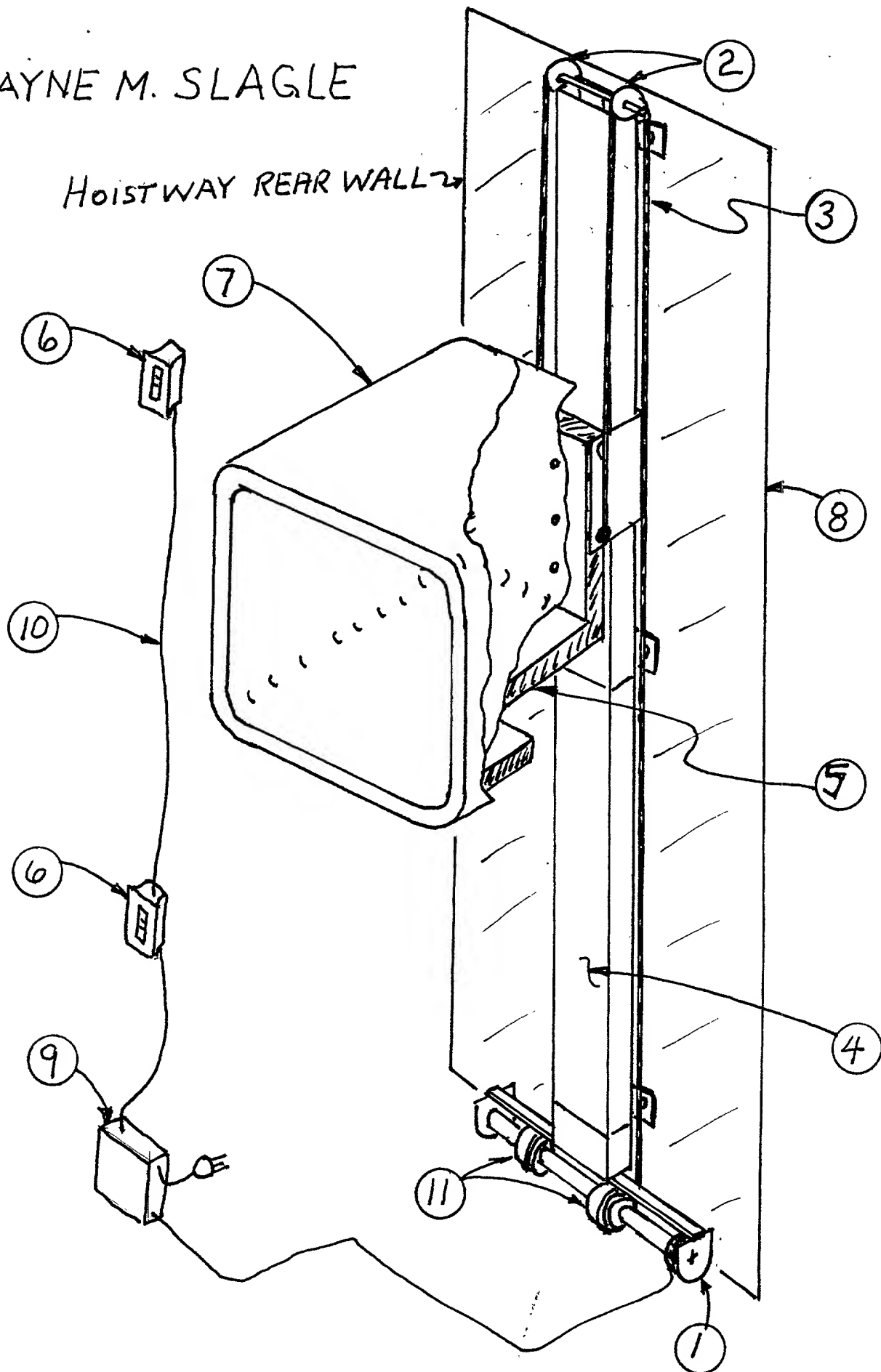
What I claim for my invention is a redundant, self adjusting parallel lifting pulley and cable system that acts as a lift and a secondary safety device.


## ABSTRACT OF THE DISCLOSURE

The invention is a elevating system that is used to move a payload from different levels of a building, allowing it to stop a different predetermined locations with the push of a button at the predetermined access locations. This system varies from existing systems in that it is driven by a low profile motor that has built in braking and limit switches. The motor assembly is mounted to the bottom of the tower and uses cables and pulleys to move the platform up and down. The low profile drive system eliminates the need for floor mounting of the drive system, which normally limits the bottom foot of the travel and requires a hole or vault in the floor to make it a low profile system. That space is not needed for this design. Limit switches are normally needed at each stop to signal when the container has reached it's desired location, whereas, this invention has rotary limit switches, at the rotary drive motor, that count revolutions to control the stop locations. The pulley system has two independent cables for safety. Each of the cables has the ability to hold the load. A set of turnbuckles are used for coarse adjustment of the cables and a pivoting mount for the pulleys at the top allows for variations in cable length during operation while still having balanced tension in each cable. The container is a single piece of roll mold plastic with a lip to prevent spills from dripping down the walls of the hoist way.

WAYNE M. SLAGLE

HOISTWAY REAR WALL



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<b>DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION</b> <b>(37 CFR 1.63)</b>  <input type="checkbox"/> Declaration Submitted with Initial Filing      OR <input type="checkbox"/> Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16 (e)) required)	<b>Attorney Docket Number</b>	
	<b>First Named Inventor</b>	Wayne M. Slagle
	<b>COMPLETE IF KNOWN</b>	
	<b>Application Number</b>	/
	<b>Filing Date</b>	
	<b>Group Art Unit</b>	
	<b>Examiner Name</b>	

As a below named inventor, I hereby declare that:

My residence, post office address, and citizenship are as stated below next to my name.

Wayne M. Slagle, 1228 NE 193<sup>rd</sup> Ave, Portland, OR 97230, USA  
I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Dumbwaiter elevating and lowering platform device

the specification of which

(Title of the Invention)

☒ is attached hereto  
OR

☐ was filed on (MM/DD/YYYY)

as United States Application Number or PCT International

Application Number

and was amended on (MM/DD/YYYY)

(if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached?	
				YES	NO
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

☐ Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto:

I hereby claim the benefit under 35 U.S.C. 119(e) of any United States provisional application(s) listed below.

Application Number(s)	Filing Date (MM/DD/YYYY)	<input type="checkbox"/> Additional provisional application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

[Page 1 of 2]

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## DECLARATION — Utility or Design Patent Application

I hereby claim the benefit under 35 U.S.C. 120 of any United States application(s), or 365(c) of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

U.S. Parent Application or PCT Parent Number	Parent Filing Date (MM/DD/YYYY)	Parent Patent Number (if applicable)

☐ Additional U.S. or PCT international application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

As a named inventor, I hereby appoint the following registered practitioner(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

☐ Customer Number

OR

☐ Registered practitioner(s) name/registration number listed below

Place Customer  
Number Bar Code  
Label here

Name	Registration Number	Name	Registration Number

☐ Additional registered practitioner(s) named on supplemental Registered Practitioner Information sheet PTO/SB/02C attached hereto

Direct all correspondence to: ☐ Customer Number  or Bar Code Label

OR ☒ Correspondence address below

Name	Wayne M. Slagle				
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Address					
City	Portland	State	OR	ZIP	97230
Country	USA	Telephone	(503) 256 3852	Fax	(503) 669 8973

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Name of Sole or First Inventor:		<input type="checkbox"/> A petition has been filed for this unsigned inventor			
Given Name (first and middle [if any])		Family Name or Surname			
WAYNE M.		SLAGLE			
Inventor's Signature	Wayne M. Slagle			Date	11-26-99
Residence: City	PORTLAND	State	OR	Country	USA
				Citizenship	USA
Post Office Address	1228 NE 193 <sup>rd</sup> Ave				
Post Office Address					
City	Portland	State	OR	ZIP	97230
				Country	USA

☐ Additional inventors are being named on the \_\_\_\_\_ supplemental Additional Inventor(s) sheet(s) PTO/SB/02A attached hereto